POSITIONS AND AREAS OF SUN SPOTS

[Communicated by Capt. J. F. Hellweg, U.S. Navy, Superintendent U.S. Naval Observatory. Data furnished by the U.S. Naval Observatory in cooperation with Harvard and Mount Wilson Observatories. Difference in longitude is measured from the central meridian, positive west. North latitude is positive. Areas are corrected for foreshortening and are expressed in millionths of the sun's visible hemisphere. The total area for each day includes spots and groups]

Date	Eastern standard time	Heliographic			Area		Total area for each day	Observatory
		Diff. in longitude	Longitude	Latitude	Spot	Group		
1933	h. m.	°	°	°				
Jan. 1	14 52	No spots						U.S. Naval.
Jan. 2	13 58	No spots						Do.
Jan. 3	11 12	No spots						Mount Wilson.
Jan. 4	11 18	No spots						Do.
Jan. 5	11 26	No spots						Do.
Jan. 6	11 18	No spots						Do.
Jan. 7	10 51	No spots						Do.
Jan. 8	11 43	No spots						U.S. Naval.
Jan. 9	12 0	No spots						Do.
Jan. 10	11 50	No spots						Do.
Jan. 11	— —	No spots						Do.
Jan. 12	12 45	+4.0	147.4	+5.0		16	16	Mount Wilson.
Jan. 13	12 30	+18.0	148.4	+5.0		29	29	Do.
Jan. 14	12 50	+32.0	149.1	+4.0		42	42	Do.
Jan. 15	11 27	+45.0	149.7	+4.5		46	46	U.S. Naval.
Jan. 16	13 19	+59.0	149.5	+4.5		69	69	Do.
Jan. 17	11 52	+73.0	151.1	+4.5		69	69	Do.
Jan. 18	11 36	No spots						Do.
Jan. 19	11 35	No spots						Do.
Jan. 20	11 44	No spots						Do.
Jan. 21	12 56	No spots						Do.
Jan. 22	10 50	No spots						Mount Wilson.
Jan. 23	13 52	No spots						U.S. Naval.
Jan. 24	11 5	No spots						Do.
Jan. 25	11 30	No spots						Do.
Jan. 26	13 56	No spots						Do.
Jan. 27	11 46	No spots						Do.
Jan. 28	13 1	No spots						Do.
Jan. 29	11 20	No spots						Do.
Jan. 30	11 26	−47.0	220.2	+30.0		39	39	Do.
Jan. 31	11 21	−34.0	220.1	+30.0		39	39	Do.
Mean daily area for January							11	

PROVISIONAL SUN-SPOT RELATIVE NUMBERS FOR JANUARY 1934

(Dependent alone on observations at Zurich and its station at Arosa)

[Data furnished through the courtesy of Prof. W. Brunner, Eidgen. Sternwarte, Zurich, Switzerland]

January 1934	Relative numbers	January 1934	Relative numbers	January 1934	Relative numbers
1	0	11	0	21	0
2	0	12	*Mc* 8	22	
3		13	11	23	
4	0	14	12	24	0
5	0	15	13	25	0
6	0	16		26	0
7	0	17	11	27	0
8	0	18		28	0
9	0	19	0	29	*Ec* 8
10	0	20		50	11
				31	

Mean: 24 days=3.1.

c=New formation of a center of activity; *E*, on the eastern part of the sun's disk; *W*, on the western part; *M*, in the central zone.

AEROLOGICAL OBSERVATIONS

[Aerological Division, L. T. Samuels, temporarily in charge]

By L. T. SAMUELS

Free-air temperatures for January, as shown in table 1, averaged above normal at all stations except Boston and Pensacola. Departures of considerable magnitude occurred at Omaha, and Pembina. Relative humidity departures for the month were of opposite sign to those for temperature except at Cleveland, Dallas, and Omaha, where the departures were positive for both of these elements.

In most cases the resultant free-air wind directions for the month did not differ appreciably from the normals (table 2). Moderate excesses in the resultant velocities were general at the northern stations but elsewhere no consistent variations from the normals occurred.

During January, the International month for 1934, 46 sounding balloons were released from the Omaha Airport Station. To date 33 of the meteorographs carried by these balloons have been returned.